

- H5719a Blocking and Sampling 30 min.
Explains random sampling and the difference between single-factor and multi-factor experiments.
- H5719b Samples and Surveys 30 min.
Explains stratified random sampling and examines a 1936 Gallup election poll which yields information about undercoverage.
- H5720a What is Probability? 30 min.
Distinguishes between deterministic phenomena and random phenomena.
- H5720b Random Variables 30 min.
Covers independence, the multiplication rule for independent events; and discrete and continuous random variables.
- H5721a Binomial Distributions 30 min.
Explains how to calculate the mean and standard deviation of binomial distributions and shows a representative example of binomial distribution.
- H5721b The Sample Mean and Control Charts 30 min.
Uses roulette and business to demonstrate the use of the central limit theorem, control chart monitoring of random variation, creation of \bar{x} charts, and definitions of control limits.
- H5722a Confidence Intervals 30 min.
Explains the confidence interval using population surveys to show how margin of error and confidence levels are interpreted.
- H5722b Significance Tests 30 min.
Illustrates the basic reasoning behind tests of significance using a hiring discrimination case.
- H5723a Inference for One Mean 30 min.
Explores inference about the mean of a single distribution, with emphasis on paired samples and the t-confidence interval and test.
- H5723b Comparing Two Means 30 min.
Explains how to recognize a two-sample problem and to distinguish it from one- and paired-sample situations.
- H5724a Inference for Proportions 30 min.
Shows confidence intervals and tests for comparing proportions applied in government estimates on underemployment.
- H5724b Inference for Two-Way Tables 30 min.
Covers the chi-square test and the relationship between two categorical variables.
- H5725a Inference for Relationships 30 min.
Explains inference for simple linear regression, emphasizing slope and prediction.
- H5725b Case Study 30 min.
Shows planning data collection, collecting and picturing data, drawing inferences, and evaluating conclusions.